



Damanhour University
Faculty of Science
Botany Department
First Term Examination 2015/2016



Year:	First – level	Course Title:	Paleobotany
Section:	Geology	Course Code:	N 121
Date:	11 /1/2016	Total points:	60 Marks
Examiner:	Prof. Dr. Wael Ibrahim	Time Allowed:	1 hours

Answer the following questions

Question 1: Compare without drawing between:

- a) Mechanism of Compression and Petrification
- b) Geological record of plant evolution during Mesozoic era

Question 2: Illustrate the following by drawing only:

- a) Aspergillus.
- b) Different types of Protostele.
- c) Chlamydomonas.

Question 3: Choose the correct answer:

- 1) Solenostele originates fromby the interruption of stele with leaf gaps.
a) Protostele b) Siphonostele c) Dictyostele d) Eustele
- 2) Fossils preserve much of organic matter in case of
a) Compression b) Incrustation c) Impression d) Petrification
- 3) Impressions are oftenin colour than the surface of rock.
a) white b) red c) brown d) dark
- 4) The cell wall of fungi contains.....
a) cellulose b) hemicellulose c) chitin d) pectin
- 5) The foliage leaf of *Pinus* isin its shape.
a) needle b) star c) spiral d) circular
- 6) The scale leaves of *Pinus* are.....
a) small b) brown c) membranous d) all
- 7) The Cenozoic era called the Age of
a) *Bryophyta* b) *Pteridophyta* c) *Angiosperms* d) *Gymnosperms*

Question 4: Mark correct (✓) or wrong (X) of the following:

- a) Cyanobacteria are a group of photosynthetic eukaryotes.
- b) The cell wall of diatoms consists of two halves impregnated with silica.
- c) The sporophyte of *Funaria* is composed of foot, seta and capsule.
- d) The plant body of algae is not differentiated into root, stem and leaves.
- e) Sori of *Adiantum* arise on the upper surface of some pinnules.
- f) The dominance of angiosperms takes place during Palaeozoic era.

Best Wishes of Success

Department: Botany and Microbiology
Year: 3rd level
Section: Botany / Chemistry
Course Code: Bot 321
Course Title: Ecological dynamics
Term: Autumn 2015
Date: 4/1/2016
Time Allowed: 2 hour
Total points: 60
Professor(s) : Dr. Ahmed A. Khalafallah



Damanhour University
Faculty of Science

Answer on the following questions (10 marks for each question)

- Q1:** Discuss briefly the biogeochemical cycle of nitrogen.
Q2: Recognize the population concept and its types.
Q3: How you can judge on the succession of the migrated propagules.
Q4: Appear the role of Reed swamps in hydrosere succession.
Q5: Write short notes on Community Structure and Composition and the Methods of Studying Communities.
Q6: A-What is the concept of: Natalty – Mortality – Migration – Emigration? From these concepts show how the population size increase or decrease.
 B- From the following table:
 a- Calculate the absolute and Ecological density.
 b- What is the pattern of population distribution in cells; 2-1, 3-1 and 4-1.

	1	2	3	4	5
1		• •	• • •	•• •• ••	
2			• • •	• • •	
3					
4					

With my best wishes
 Dr/ Ahmed Ahmed Khalafallah
 Assist. prof. of plant ecology,
 Ain shams unvisited

1/c
Department: Botany and Microbiology
Year: 3rd level
Section: Botany / Chemistry
Course Code: Bot 301
Course Title: Archegoniatae
Term: Autumn 2015
Date: 2/1/2016
Time Allowed: 2 hour
Total points: 60
Professor(s) : Dr. Ahmed A. Khalafallah



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Answer on the following questions,

- Q1: Discuss briefly the general characteristics of Bryophyta and their relations to Algae and pteridophyta (10 marks)
- Q2: Follow up the developmental characteristics in sporophytes in the studied species of Bryophytes. (10 marks)
- Q3: By drawing only compare between the sporophyte of *Funaria* and *Equisetum*. (10 marks)
- Q4: drawing the types of steles in pteridophyta. (10 marks)
- Q5: Diagrammatically discuss the life cycle of *Adiantum*. (10 marks)
- Q6: Compare between the male cone and female cone of *Pinus*. (10 marks)

With my best wishes Dr/ Ahmed Ahmed Khalafallah
Assist. prof. of plant ecology, Ain shams univ.

Department: Botany and Microbiology

Year: 2015/2016

Section: Botany/chemistry

Course Title and Code: Plant Anatomy and Ecology N201 (تخلفات)

Term: Autumn

Date: 29/12/2015

Time Allowed: 2Hours

Total points: 60

Professor Name: Dr. Kholod A. Khattab



Damanhour University

Faculty of Sciences

Answer the Following Questions:

Q1 Make a labeled diagram for each of the following: (10 points)

1. Steps of Periderm Tissue Formation.
2. Types of Siphonostele.

Q2 Define the following terms: (10 points)

- Annual Rings.
- Eustele.
- Rhytidome.
- Amphicribal Vascular Bundle.

Q3 Compare between each of two of the following: (10 points)

1. Hard Wood and Soft Wood.
2. Bordered Pits and Simple Pits.

Q4 Briefly discuss each of the following topics: (10 points)

1. Normal Secondary Growth in Dicot Root.
2. Ecological Adaptations in Hydrophytes at Anatomical Level.

Q5 A. Define the following terms: (10 points)

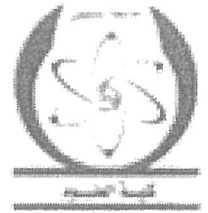
- Biosphere
- Ecosystem
- Natural resources

B. With brief note, illustrate the following: (10 points)

- Living Components of Ecosystem.

With my best wishes 😊

Department: Botany
 Year: Fourth
 Section:
 Course code: Bot. 226
 Course Title: PRINCIPLES OF GENETICS
 Term: First, 2015- 2016
 Date: Mond., 28-12-2015
 Time Allowed: 1 hours
 Total points: 60
 Professors Name: DR. MONA H. M. EL-HADARY



Q1: Write “only the ratios” of this following genetic cases: (18 Marks)

- 1-Mendelian first law.....
- 2- Mendelian second law.....
- 3- Epistasis.....
- 4- Lethal genes.....
- 5- Incomplete (Partial dominance).....
- 6- Coincidence Coefficient

Q2: Mention the genetic malformation that results in the following syndromes (16 Marks)

Syndrome	Cell type (Somatic/ gametes)	Kind (.....somy)	Structure/ No.	Chromosomal No.
Turner				
Edward				
Klinefelter's				
Cri-du-chat				
Down				
Jacob's				
Prader				
Patau				

Q3: Solve the problem: (6 Scores)

Draw the genetic map of three genes X, Z, Y. If you know that the genetic distance between XY= 10, XZ= 7 and ZY= 3.

Q4: Clarify with drawing only: (10 Marks)

The possibilities of repulsion and coupling phenomena

Q5: Define: (10 Marks)

- | | |
|-------------------------|----------------|
| a-Monohybrid | b- Dihybrid |
| c- Centimorgan | d-Linked genes |
| e- Genetic polymorphism | |

With My Best Wishes

Dr. Mona El-Haday

Department: Botany and Microbiology
Year: 3rd level
Section: Botany / Chemistry
Course Code: Bot 301
Course Title: Archegoniatae
Term: Autumn 2015
Date: 2/1/2016
Time Allowed: 2 hour
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Professor(s) : Dr. Ahmed A. Khalafallah



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With my best wishes Dr/ Ahmed Ahmed Khalafallah
Assist. prof. of plant ecology, Ain shams univ.



1 Define the following (16 piont)

A: Airborne fungi in food:

B: Aflatoxins:

C: Just mention four intrinsic factors affecting the development of food associated microbes:

D: Compartmentalization:

2 × or √ (9 piont)

Microbial activity cannot affect the E_h of the food.

Anaerobes can lower the E_h of their environment while aerobes cannot.

Water activity is highly affected by salt concentration and temperature.

Thermal death time is the time necessary to kill a number of microbes at a specific temperature.

Organisms with large amounts of DNA, are rapidly killed by an very low dose of irradiation.

Some micro-organisms can actively grow at (-5) frozen food.

Bacteriocins which produced by lactic acid bacteria can be used as food preservative.

We are one of the most important source of food contamination

3

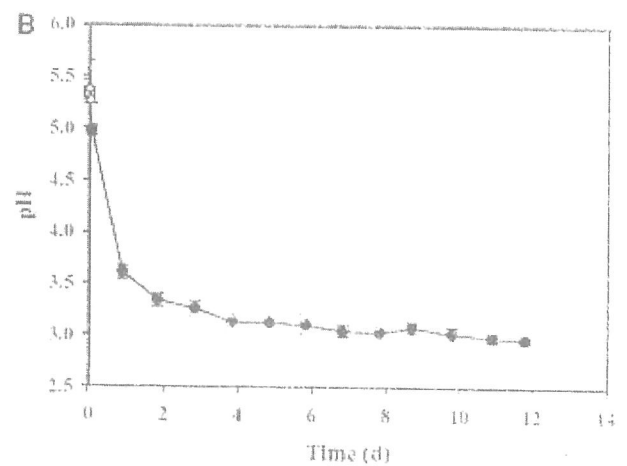
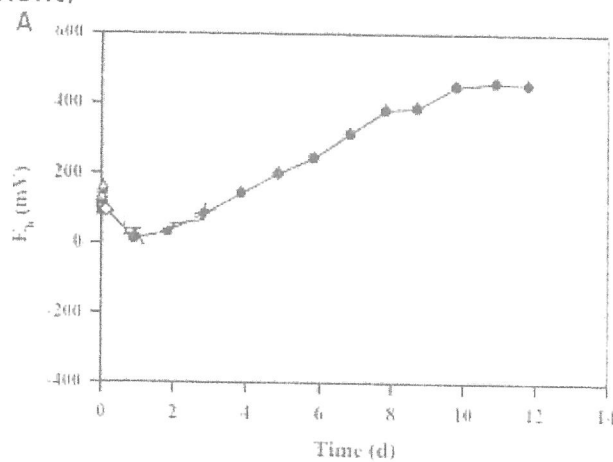
A: How weak acids, such as acetic acid, inhibit microbial growth (5 piont for each item)

B: Why xerotolerant is important in food microbiology.

C: Compare between water activity and relative humidity.

D: Compare between D and Z value.

4 (15 piont)



The upper figure showing the changes in E_h and pH during the fermentation of certain food
In the pack of this page:

1. Mention the difference between food Redox potential and food pH
2. Comment in the figure with explanation of microbial interaction with redox potential and pH

With my deep and best wishes Dr. Mohammad Mag



Question (1) (20 marks)

1.a: Chosse the correct answer:

- 1 Microbial physiology is intermediate science between basic and applied microbiology.
A: × B: ✓
- 2 Lactate dehydrogenase is an example of
A: lyases B: hydrolysis C: transferases D: not A or B or C
- 3 10 NADH gives via electron transport chain
A: 1 – 10 B: 20 C: 30 D: not A or B or C
- 4 Lyases work on removal or addition of groups to double bond.
A: × B: ✓
- 5 In Krebs cycle isocitrate converted to α -ketoglutarate with conversion of
A: ADP to ATP B: ATP to ADP C: NAD^+ to NADH D: not A or B or C
- 6 In prokaryotes respiration take place via cell membrane
A: ✓ B: ×
- 7 Pentose phosphate pathway have a catabolic function only.
A: × B: ✓
- 8 In feedback inhibition, when the end product is in excess it inhibit the activity of the first enzyme involved specifically in its formation.
A: ✓ B: ×
- 9 Osmotic pressure can be used to inhibit the microbial growth.
A: ✓ B: ×
- 10 Many microbes are unable to synthesise certain organic compounds necessary for its growth.
A: ✓ B: ×

1.b- Complete the following

- 1- Photoheterotrophes are
- 2- The rate of passive diffusion based on
- 3- Enzymes speed up the reaction by
- 4- The three phases of catabolism are

- 5- In microbial nutrition, most of micronutrients act as
- 6- In chemostate the sterile medium is fed into the culture vessel as

Question (2): write very short notes in: (24 marks)

Three similarities between pro-and eukaryotic cell	
Facilitated diffusion	
Explain: some microbes have a long lag phase.	

Allosteric regulation of enzyme activity
(with simple diagram)

From pyruvate what the pathway and what the microorganism by which you can get

- A: ethanol
B: lactate
C: butanol

Comment this fig.

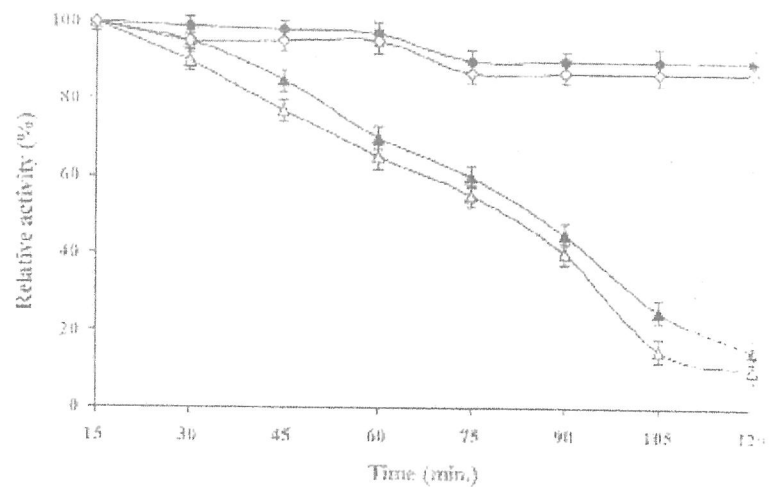


Fig. 5. Thermal stability profile of free enzyme at 50°C (-▲-), 60°C (-△-) and immobilized inulinase at 50°C (-◆-), 60°C (-◇-).

Question (3)- In the pack of these pages: (16 marks)

- 1- Compare between glycolysis, fermentation and Krebs cycle
- 2- Write with very simple diagram on: electron transport chain as an essential mechanism in energy production

With my best wishes Dr. Mohammad Magdy